



# MORPHOLINE

UN 2054

Shipping Name: Morpholine

Other Names: Diethylene oximide  
Diethylenimide oxide  
2-H-1,4-oxazine  
Tetrahydro-1,4-oxazine



## Hazards:

- Severely irritating to skin, eyes, nose and lungs; skin and eye contact causes severe burns and blindness
- Fire fighting gear (including SCBA) does not provide adequate protection. If exposure occurs, remove and isolate gear immediately and thoroughly decontaminate personnel
- Highly flammable
- Container may BLEVE when exposed to fire
- Vapors are heavier than air and will collect and stay in low areas
- Vapors may travel long distances to ignition sources and flashback
- Vapors in confined areas (e.g., tanks, sewers, buildings) may explode when exposed to fire
- Combustion products include toxic nitrogen oxides

## Awareness and Operational Level Training Response:

- Stay upwind and uphill
- Determine the extent of the problem
- Isolate the area of release or fire and deny entry
- Remove all ignition sources
- For container exposed to fire evacuate the area in all directions because of the risk of BLEVE
- Evacuate the immediate area and downwind for a large release
- Notify local health and fire officials and pollution control agencies
- If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated water

## Description:

- Colorless liquid
- Fishy or ammonia-like odor
- Soluble in water
- Highly flammable
- Vapors are heavier than air and will collect and stay in low areas
- Freezes at 23° F

## Operational Level Training Response:

### RELEASE, NO FIRE:

- Stop the release if it can be done safely from a distance
- Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of release
- Use large amounts of water to disperse vapors - contain runoff
- Consider the application of alcohol resistant (AFFF) foam to spilled liquid to control vapors
- Ventilate confined area if it can be done without placing personnel at risk

### FIRE:

- Specially trained personnel operating from a safe distance can fight fires using alcohol resistant (AFFF) foam or dry chemical if available in sufficient amounts. Under favorable conditions, experienced crews can use coordinated fog streams to sweep the flames off the surface of the burning liquid. Keep exposures cool to protect against re-ignition. Do not direct straight streams into the liquid.
- Cool exposed containers with large quantities of water from unattended equipment or remove intact containers if it can be done safely
- If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors or shows any signs of deforming), withdraw immediately to a secure location

## First Aid:

- Do not put yourself in danger by entering a contaminated area to rescue a victim
- Provide Basic Life Support/CPR as needed
- Decontaminate the victim as follows:
  - ◆ Inhalation - remove the victim to fresh air and give oxygen if available
  - ◆ Skin - remove and isolate contaminated clothing (including shoes) and wash skin with soap and large volumes of water for 15 minutes
  - ◆ Eye - rinse eyes with large volumes of water or saline for 15 minutes
  - ◆ Swallowed - do not make the victim vomit
- Seek medical attention
- Toxic effects may be delayed
- For skin burns decontaminate with water and apply a clean dry dressing

CAS: 110-91-8